Abstracts

A Coaxial Line Filled with Two Non-Concentric Dielectrics

D.J. Angelakos. "A Coaxial Line Filled with Two Non-Concentric Dielectrics." 1954 Transactions on Microwave Theory and Techniques 2.2 (Jul. 1954 [T-MTT]): 39-44.

An analysis has been made of a coaxial transmission line composed of two coaxial cylindrical conductors. Two dielectrics fill different angular portions of the volume between the conductors. The propagation constants (primarily the guide wavelength) are determined by a resonant condition applied to the plane transverse to the direction of propagation. Experimental verification is given for near unity values of the ratio of the outer to the inner radius. In addition, an experimental investigation has been made of the properties of the guide wavelength as a function of frequency and larger ratios of the radii.

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